

# Final Review 5

$$\textcircled{1} \quad \frac{9.12}{3.2} = \boxed{\$2.85 \text{ per pound}}$$

$$\textcircled{a} \quad \frac{3.2}{9.12} = \frac{0.8}{x}$$

$$\textcircled{b} \quad \frac{9.12}{3.2} = \frac{7.28}{x}$$

$$3.2x = 0.8 \cdot 9.12$$

$$3.2x = 7.296$$

$$\boxed{x = \$2.28}$$

$$9.12x = 3.2 \cdot 7.28$$

$$9.12x = 23.296$$

$$\boxed{x = 2.55 \text{ lbs}}$$



2) For each table below, give the rate of change, the recursive rule, and the equation.

X	Y
0	3
1	4
2	5

>1  
>1

$$\text{rate} = 1$$

recursive:

$$3 \text{ (E)}$$

$$\text{Ans} + 1 \text{ (E)}$$

ex.  $y = 1x + 3$

X	Y
1	2.6
2	3.8
3	5.0

>1.2 2<  
>1.2 3<

$$\text{rate} = 1.2$$

recursive

$$1.4 \text{ (E)}$$

$$\text{Ans} + 1.2$$

F

$$y = 1.2x + 1.4$$

X	Y
-2	1
0	5
3	11

$$\frac{4}{2} = 2$$

>4  
>6

$$\text{rate} = \frac{6}{3} = 2$$

recursive

$$5 \text{ F}$$

$$\text{Ans} + 2$$

$$y = 2x + 5$$

X	Y
-4	5
12	-3
2	2

$$\text{rate} = \frac{2 - (-3)}{2 - 12}$$

$$\text{rate} = \frac{5}{-10} = -\frac{1}{2}$$

recursive

$$1 \text{ (E)}$$

$$\text{Ans} - \frac{1}{2}$$

$$y = -\frac{1}{2}x + 1$$

$$\textcircled{3} \quad y = 215,000 - 3500x$$

$\downarrow$  value after  $x$  years       $\downarrow$  years

$$\textcircled{4} \quad m = \frac{y_2 - y_1}{x_2 - x_1} \quad m = \frac{-7 - -8}{3 - 1} \quad m = \frac{1}{2}$$

$$(1, -8) (3, -7)$$

⑤  $(3, -5) (-1, 1)$

$$y = m(x - x_1) + y_1$$

$$m = \frac{1 - -5}{-1 - 3} = \frac{6}{-4} = -\frac{3}{2}$$

$$y = -\frac{3}{2}(x - 3) - 5$$

or

$$y = -\frac{3}{2}(x + 1) + 1$$

⑥  $y = 7(x + 5) + 3x$

$$y = 7x + 35 + 3x$$

$$y = 10x + 35$$

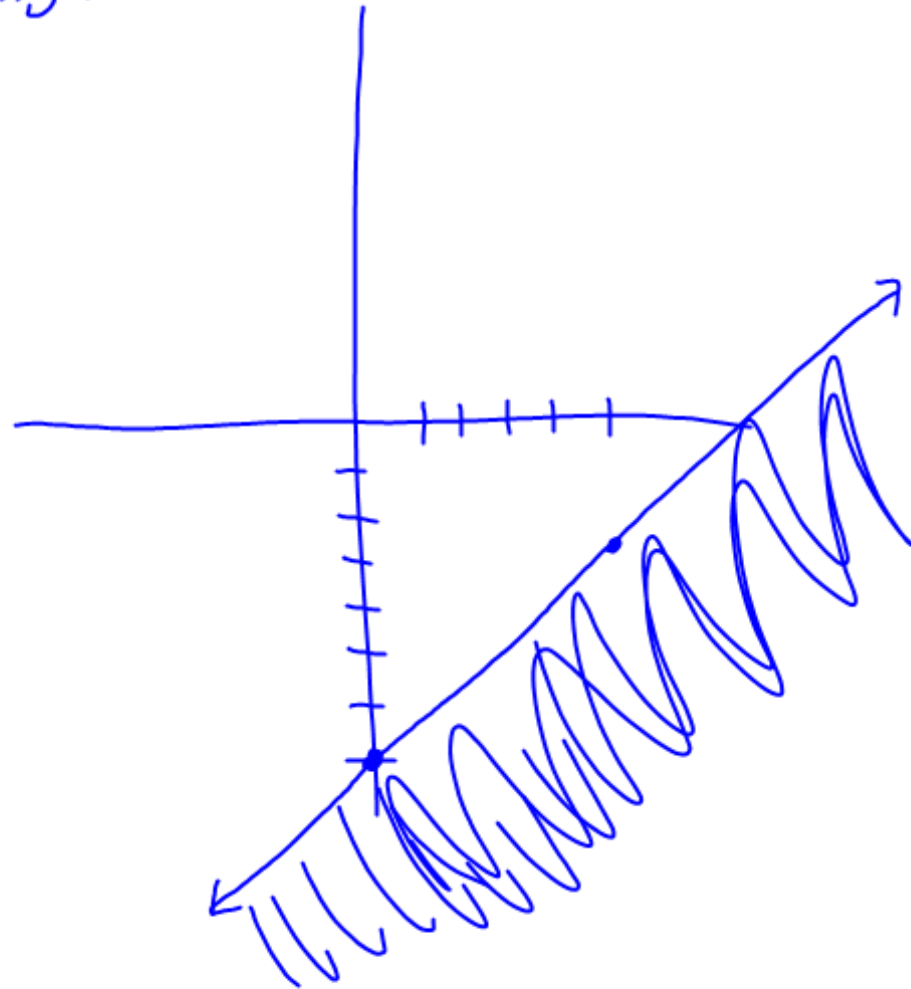
⑦

$$4x - 5y \geq 35$$

$$\begin{array}{r} -4x \quad -4x \\ \hline \end{array}$$

$$\begin{array}{r} -5y \geq 35 - 4x \\ \hline -5 \end{array} \quad \text{switch sign}$$

$$y \leq -7 + \frac{4}{5}x$$



$$\textcircled{8} \quad \begin{array}{l} y = 3x + 2 \\ y = 4x - 1 \end{array}$$

$$\begin{array}{r} 3x + 2 = 4x - 1 \\ -3x \quad -3x \end{array}$$

$$\begin{array}{r} 2 = 1x - 1 \\ +1 \quad +1 \end{array}$$

$$\boxed{\underline{\underline{x = 3}}} \text{ plug in to find } y$$

$$y = 3x + 2$$

$$y = 3(3) + 2$$

$$\boxed{\underline{\underline{y = 11}}}$$

$$\textcircled{6} \quad \begin{array}{l} y = 3x - 5 \\ y = 5x + 3 \end{array}$$

$$\begin{array}{r} 3x - 5 = 5x + 3 \\ -3x \quad -3x \end{array}$$

$$\begin{array}{r} -5 = 2x + 3 \\ -3 \quad -3 \end{array}$$

$$\begin{array}{r} -8 = 2x \\ \frac{-8}{2} = \frac{2x}{2} \end{array}$$

$$\boxed{\underline{\underline{-4 = x}}}$$

$$y = 3(-4) - 5$$

$$\boxed{\underline{\underline{y = -17}}}$$

$$P = 13n - 125$$

13  $\rightarrow$  \$13 per wash

$n$   $\rightarrow$  # of washes

-125  $\rightarrow$  start up costs

$P$   $\rightarrow$  profit